

Spot Diagnosis

Unilateral facial flushing precipitated by eating

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A healthy 7 year old girl born by forceps delivery presented with a lifelong history of unilateral facial flushing precipitated by eating (fig 1). What diagnosis correlates with these clinical findings?

Answer

Frey's syndrome. This occurs after injury (during forceps delivery in this case) to auriculotemporal nerve fibres, which regenerate and erroneously stimulate the sweat glands or blood vessels instead of the parotid glands.

Discussion

Unilateral facial erythema or sweating after gustatory stimuli is consistent with a diagnosis of Frey's syndrome.

Parasympathetic auriculotemporal nerve fibres provide secretomotor innervation to the parotid gland. However, in Frey's syndrome, injury and aberrant regeneration of these nerve fibres results in stimulation of the sweat glands or blood vessels instead of the parotid gland. This leads to unilateral facial erythema and sweating after gustatory stimuli. Injury often occurs during facial surgery such as parotidectomy, but it can also be caused by other forms of trauma, infection, and parotid tumours. Perinatal birth trauma, as in this case, is a rare cause of Frey's syndrome and sweating is rarely a feature in infants. The condition may be misdiagnosed as contact dermatitis or food allergy, but these can be excluded by the normal skin texture and typical unilateral distribution on the pre-auricular area and cheek. The diagnosis is made on clinical grounds, and further testing is not needed. Patients can be reassured of the benign nature of the condition and that symptoms usually resolve spontaneously in children. The nerve damage is permanent in patients with Frey's syndrome as a result of surgery, and they may require treatment with botulinum toxin.

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